

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph beginning on page 6, line 15 with the following amended paragraph:

According to a fourth aspect of the present invention, there is provided an optical transmission system comprising: an output side slab-waveguide including, a plurality of signal sources each provided for each ~~peculiar~~ individual wavelength, an input waveguide for inputting signals of different wavelengths from these signal sources in correspondence to these wavelengths, a channel waveguide array having waveguides with lengths progressively increasing by a predetermined waveguide length difference, an input side slab-waveguide inter-connecting the input side of the channel waveguide array and the input waveguide, and an output port connected to the output side of the channel waveguide array and disposed at the focus position of the 0-th order diffraction beams inputted from the input waveguides through the input side slab-waveguide and the channel waveguide array for outputting a wavelength multiplexed signal; an output waveguide connected to the output port for outputting the multiplexed signal to be transmitted; a monitor signal separating means for demultiplexing, by using the channel waveguide array, the multiplexed signal obtained in the output side slab-waveguide at the focus position of higher order diffraction beams other than the ~~0-th~~ 0-th order obtained from the signals from the input waveguide, thereby separating the monitor signals of wavelengths corresponding to those of the signals inputted from the input waveguides; an output level detecting means for detecting, from the signals of different wavelengths obtained from the monitor signal separating means, the output levels of the individual wavelength signals from the plurality of signal sources; and a signal source power control means for controlling the power levels of the plurality of signal sources according to the output levels of the individual wavelength signals from the plurality of signal sources as detected by the output level detecting means.

Please replace the paragraph beginning on page 8, line 12 with the following amended paragraph:

According to a fifth aspect of the present invention, there is provided an optical transmission system comprising: a plurality of signal sources each provided for each ~~peculiar~~ individual wavelength; an input waveguide for inputting signals of different wavelengths from these signal sources in correspondence to these wavelengths; a channel waveguide array having waveguides with lengths progressively increasing by a predetermined waveguide length difference; an input side slab-waveguide inter-connecting the input side of the channel waveguide array and the input waveguide; an output side slab-waveguide including an output port connected to the output side of the channel waveguide array and disposed at the focus position of the 0-th order diffraction beams inputted from the input waveguides through the input side slab-waveguide and the channel waveguide array for outputting a wavelength multiplexed signal and a monitor signal port disposed at the focus position of higher order diffraction beams other than the 0-th order obtained from the signals inputted from the input waveguide; an output waveguide connected to the output port for outputting the multiplexed signal to be transmitted; a monitor signal separating means for demultiplexing, by using the channel waveguide array, the individual wavelength monitor signals from the wavelength multiplexed signal obtained from the monitor port; an output level detecting means for detecting, from the signals of individual wavelengths obtained from the monitor signal separating means, the output levels of the individual wavelength signal signals from the plurality of signal sources; and a signal source power control means for controlling the power levels of the plurality of signal sources according to the output levels of the individual wavelength signals from the plurality of signal sources as detected by the output level detecting means.